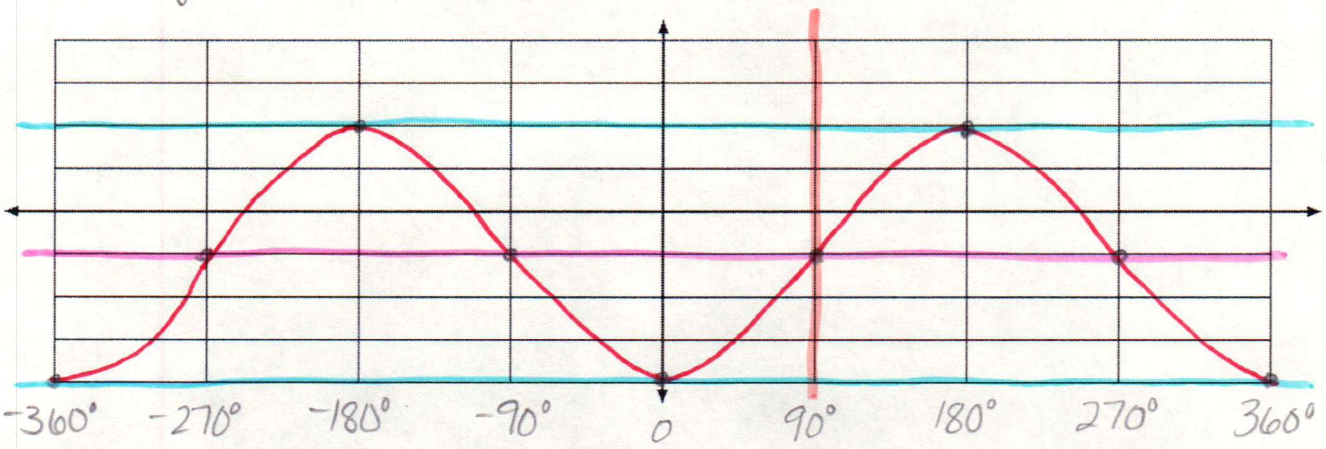
AGS 3 Name: _____ Period: _____ Date: _____

Notes 7.5 – Periodic Graphs

Graph a sine function with an amplitude of 3, a phase shift of 90° to the right, and a vertical shift down 1.

Equation: $y = 3\sin(\theta - 90) - 1$

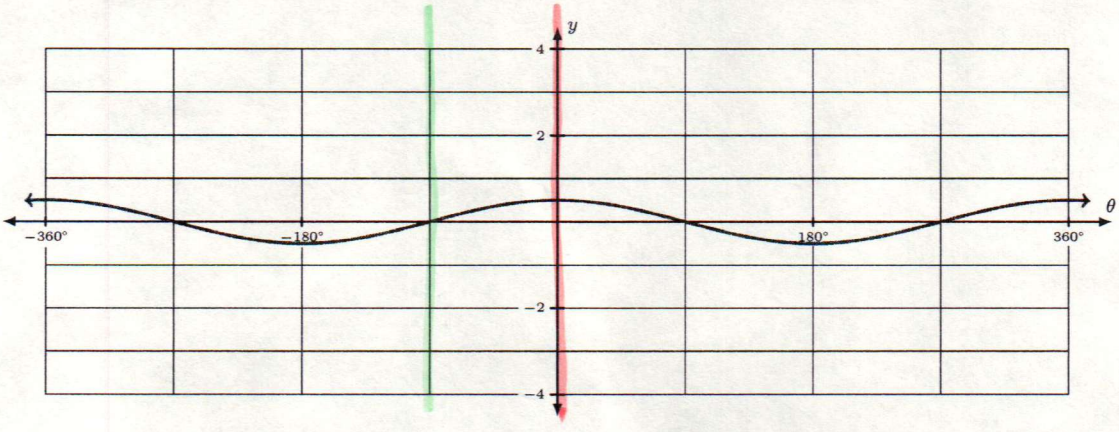


Now write the equation you see if there was no phase shift.

Equation: $y = -3\cos(\theta) - 1$

Write two equations for each graph, one must be a sine function and the other must be a cosine function. You must mark the phase shift that you used for each.

a.

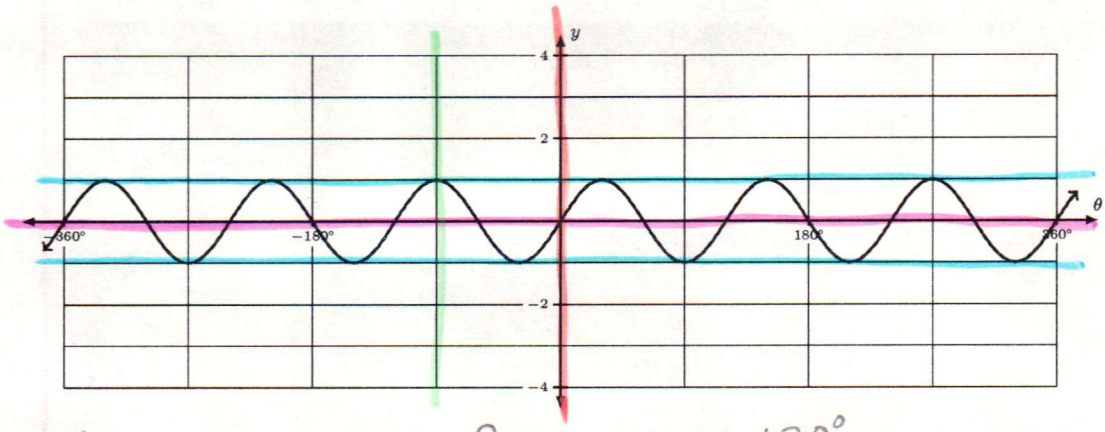


Amplitude: $\frac{1}{2}$ Vertical Shift: 0 Period: 360° Phase Shift: depends.

Equation 1: $y = \frac{1}{2}\cos(\theta)$ $0°$

Equation 2: $y = \frac{1}{2}\sin(\theta + 90)$ $-90°$

b.

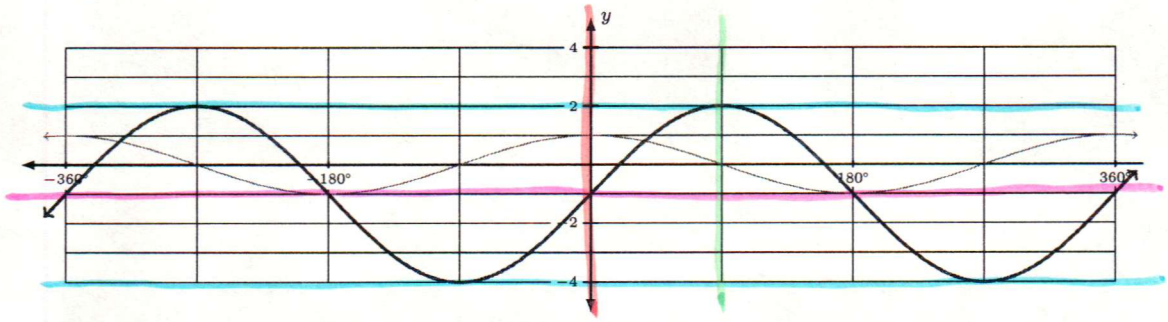


Amplitude: 1 Vertical Shift: 0 Period: 120° Phase Shift: —

Equation 1: $y = \sin(3\theta)$ $0°$

Equation 2: $y = \cos(3(\theta + 90))$ $-90°$

c.

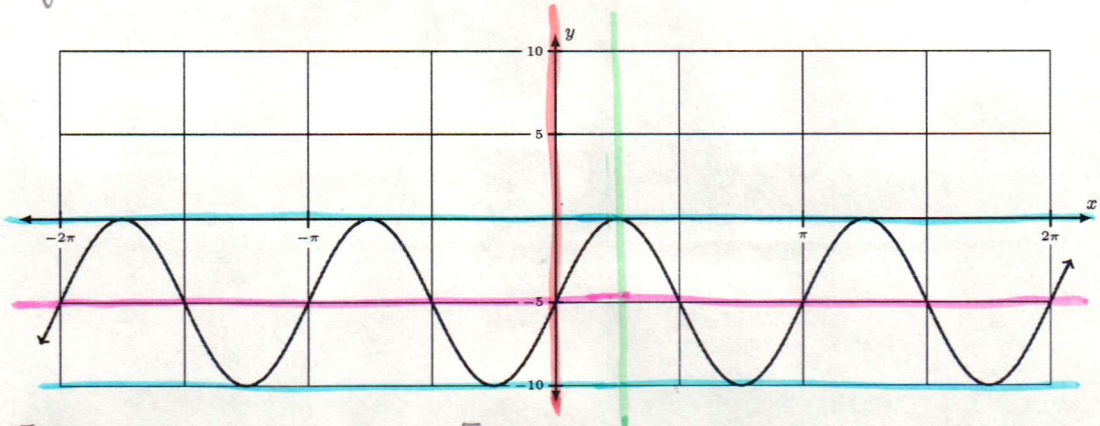


Amplitude: 3 Vertical Shift: −1 Period: 360° Phase Shift: —

Equation 1: $y = 3\sin(\theta) - 1$ $0°$

Equation 2: $y = 3\cos(\theta - 90°) - 1$ $90°$

d.



Amplitude: 5 Vertical Shift: −5 Period: π Phase Shift:

Equation 1: $y = 5\sin(2x) - 5$ 0π

Equation 2: $y = 5\cos(2(x - \frac{\pi}{4})) - 5$ $\frac{\pi}{4}$